

## ABSTRACT

The present invention provides fish system as a powerful forward genetic tool to directly identify a number of novel genes involved in cell proliferation in vertebrates without the time consuming and costly maintenance of animals. The invention provides a tool to identify  
5 functional characteristics of a protein without prior knowledge of the gene sequence. After identification of the mutant gene in the fish system, the nucleic acid sequence of the gene can be used for identifying a homologue of the gene in another species, for example, in humans.